### DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

#### LAKE TROPHIC DATA

## MORPHOMETRIC:

Lake: LONG POND	Lake Area (ha):	15.78
Town: BARRINGTON	Maximum depth (m):	3.5
County: Strafford	Mean depth (m):	1.5
River Basin: Coastal	Volume (m³):	238500
Latitude: 43°15'22" N	Relative depth:	0.8
Longitude: 71°04'27" W	Shore configuration:	2.06
Elevation (ft): 2	<pre>4 Areal water load (m/yr)</pre>	
Shore length (m): 29		72.80
Watershed area (ha): 36		0.20
<pre>% watershed ponded:</pre>	1.5 Lake type:	natural

BIOLOGICAL:	3 February 1999	16 July 1998
DOM. PHYTOPLANKTON (% TOTAL) #1	NO WINTER PLANKTON	ASTERIONELLA 65%
#2	ANALYZED	SYNURA 25%
#3		
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		17.21
DOM. ZOOPLANKTON (% TOTAL) #1		KERATELLA 57%
#2		TINTINNIDIUM 15%
#3		POLYARTHRA 8%
ROTIFERS/LITER		1957
MICROCRUSTACEA/LITER		25
ZOOPLANKTON ABUNDANCE (#/L)		2440
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		1.0
BOTTOM DISSOLVED OXYGEN (mg/L)	12.3	0.2
BACTERIA (E. coli, #/100 ml) #1		6
#2		2
#3		

#### SUMMER THERMAL STRATIFICATION:

## stratified

Depth of thermocline (m): 1.6 Hypolimnion volume  $(m^3)$ : None Anoxic volume  $(m^3)$ : 142 : 14200

CHEMICAL:	AL: Lake: LONG POND Town: BARRINGTON				
	3 Febru	ary 1999	16	July 1998	
DEPTH (m)		3.0	1.0	18.00	3.0
pH (units)		5.6	6.1		5.4
A.N.C. (Alkalinity)		1.7	2.5		2.6
NITRATE NITROGEN		0.11	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN		0.30	0.70		0.60
TOTAL PHOSPHORUS		0.010	0.025		0.040
CONDUCTIVITY (µmhos/cm)		62.6	41.5		36.4
APPARENT COLOR (cpu)		47	110		110
MAGNESIUM	1.01.4		0.49		
CALCIUM			1.7		
SODIUM			4.7		
POTASSIUM			< 0.40		
CHLORIDE		12	7		5
SULFATE		5	2	7 <b>.</b>	3
TN : TP		41	28		15
CALCITE SATURATION INDEX			4.6		

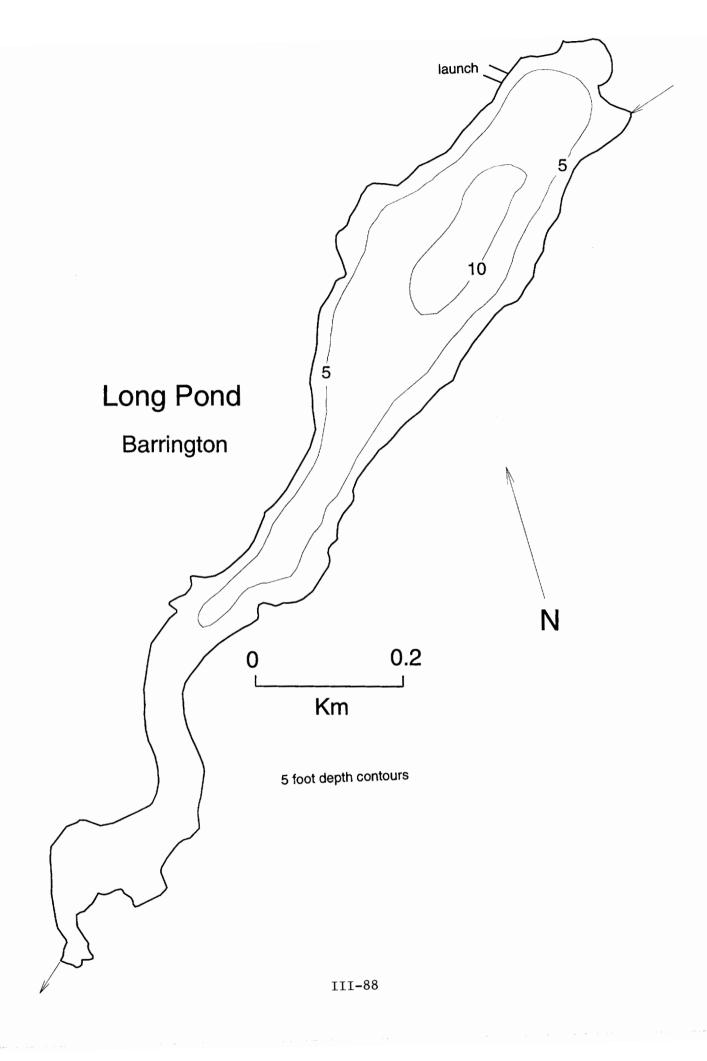
All results in mg/L unless indicated otherwise

#### TROPHIC CLASSIFICATION: 1998

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	5	3	3	11	Eutro.

#### **COMMENTS:**

- Long Pond was previously surveyed and classified in 1988. It was rated eutrophic in both years.
  The chlorophyll (40 vs 17 mg/m³) and total phosphorus (0.052 vs 0.025 mg/L) were much higher in 1988.
- 2. This is a moderately acidic, dark tea-colored eutrophic pond.
- 3. No designated public access; boat was launched at a small beach at the northern end, but there was no signage indicating ownership.
- 4. Most of the shoreline was developed with cottages.



#### FIELD DATA SHEET

LAKE: LONG POND DATE: 07/16/1998

TOWN: BARRINGTON

WEATHER: OVERCAST & WARM; CALM

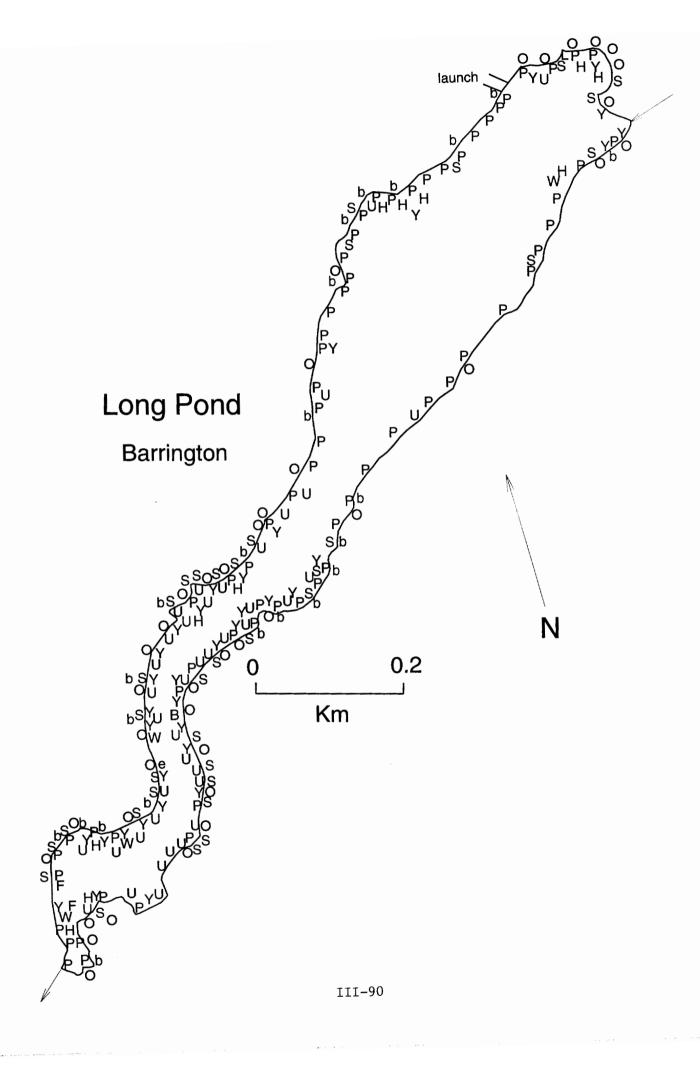
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	28.0	7.6	96 %
1.0	27.1	7.8	96 %
2.0	19.5	2.5	27 %
3.0	15.5	0.2	2 %
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SECCHI DISK (m): 1.0 COMMENTS:

BOTTOM DEPTH (m): 3.5

TIME: 1120

\*Dissolved oxygen values are in mg/L



# AQUATIC PLANT SURVEY

LAK	E: LONG POND	COWN: BARRINGTON	DATE: 07/16/1998
Кеу	PLANT	NAME	ADUNDANCE
.су	GENERIC	COMMON	ABUNDANCE
P	Pontederia cordata	Pickerelweed	Scattered
Y	Nuphar	Yellow water lily	Scattered
0	Cephalanthus occidentalis	Buttonbush	Scattered
U	Utricularia	Bladderwort	Common
S	Sparganium	Bur reed	Scattered
L	Lysimachia terrestris	Swampcandle	Scattered
Н	Myriophyllum humile	Water milfoil	Sparse
W	Potamogeton	Pondweed	Scattered
p	Scirpus	Bulrush	Sparse
В	Brasenia schreberi	Water shield	Sparse
F	Nymphoides cordatum	Floating heart	Sparse
е	Eleocharis	Spike rush	Sparse
		_	

### OVERALL ABUNDANCE: Common

# GENERAL OBSERVATIONS:

- Plants were more abundant at the southern end of the pond.
   A bryozoan was observed.
- 3. Zooplankton, particularly the rotifer *Keratella*, were abundant in this productive pond.